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(54) Title: **MICROELECTRODE RECORDING ANALYSIS AND VISUALIZATION FOR IMPROVED TARGET LOCALIZATION**

(57) Abstract: Methods of processing neuronal signals include processing microelectrode recordings (MERs) or portions of MERs to provide arrays of associated values, such as estimates of power spectral density, or a marginal probability distribution, or a rate of change of a spike rate. Such arrays of values can be displayed, and a classifier can be applied to, for example, aid in associating a MER with a particular brain feature.